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HILARY L. DE LEON  
UNIT 409A WACK WACK TWIN TOWERS  
WACK WACK ROAD  
MANDALUYONG CITY, 1550  
PHILIPPINES

EXAMINER

MANCHO, RONNIE M

ART UNIT

PAPER NUMBER

3663

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/803,889

Applicant(s)

DE LEON, HILARY LAING

Examiner

Ronnie Mancho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because in the abstract, lines 6+, the applicant discloses that the system of the invention does not interface with any of the aircrafts instruments. On the other hand, as seen in fig. 1, an aircraft instrument , GPS is connected to a controller of the system. In addition, as seen in figs. 2&3, the system is connected to various accessories of the aircraft. Correction is required. See MPEP § 608.01(b).

The applicant is also advised to review the specification and make the appropriate corrections related to the error mentioned above.

### ***Claim Objections***

2. Claim 7 is objected to under 37 CFR 1.75(c) as being in improper form because multiple dependent claim 7 cannot depend from claims 4 and 5 in the same time. See MPEP § 608.01(n). Accordingly, the claim 7 has not been further treated on the merits

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claim 16, the limitation “wherein said step of converting data includes converting relative position data to absolute position data and converting the raw sensor data into meaningful forms”. Although the applicant’s specification, page 21 mention --relative positions and absolute coordinates--, nowhere in applicant’s specification is disclosed the limitation --- converting relative position data to absolute position data---.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 4, 13, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, “the elements” lack antecedent basis.

In claim 13, “the user” lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

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8. Claims 1-3, 5, 8-14, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Bateman (6092008).

9. Regarding claim 1, Bateman (as best understood) disclose a flight data recording system (abstract) comprising:

a single apparatus (fig. 2; col. 4, lines 59-67; col. 7, lines 40+) installed on board an aircraft further comprising:

a plurality of sensors (20, 40, 30; col. 7, lines 45-59; fig. 2) for measuring and detecting the condition of the aircraft and its surroundings;

a plurality of sensors and devices (col. 9, 22-25) for monitoring the operation of the aircraft's power plant (engine, col. 9, lines 22-25);

a device (30, col. 8, lines 57+; col. 11, lines 55+) for monitoring the activity of the crew;

a global positioning satellite receiver (40, col. 8, lines 17+) that generates the position information of the aircraft based on signals received from navigation satellites (50, col. 7, lines 55-59);

a central processing unit 10 (col. 9, lines 33+; col. 8, lines 33-37; abstract; col. 7, lines 52-55; col. 8, lines 38-56; col. 11, lines 19+) that acquires, processes, and stores the data from the sensors devices (20, 40, 30; col. 7, lines 45-59; fig. 2) and global positioning satellite receiver 40;

a plurality of non-volatile memory modules (col. 9, lines 33+; abstract; 60, col. 8, lines 33-37; col. 9, lines 9-14) for recording flight data obtained from said sensor devices (20, 40, 30; col. 7, lines 45-59; fig. 2) and global positioning satellite receiver 40,

a device 110 (fig. 1, col. 7, lines 65 through col. 8, lines 1+) for retrieving said flight data from a remote location (ground, col. 8, lines 1+) using a wireless means of communications (col. 7, lines 7-11); and

a data retrieving apparatus 110 (fig. 1, col. 7, lines 65 through col. 8, lines 1+) located on the ground and used for retrieving said flight data from said non-volatile memory (10, col. 9, lines 33+)

Regarding claim 2, Bateman (as best understood) disclose the system of claim 1 wherein majority of said sensors and devices (20, 40, 30; col. 7, lines 45-59; fig. 2) and said central processing unit 10, global positioning satellite receiver 40, and non-volatile memory (col. 9, lines 33+) are all integrated into said single apparatus (fig. 2; col. 4, lines 59-67; col. 7, lines 40+) installed on board the aircraft.

Regarding claim 3, Bateman (as best understood) disclose the system of claim 1 wherein said sensors (20, 40, 30; col. 7, lines 45-59; fig. 2) and devices are independent of the aircraft's instruments, thereby simplifying the effort needed in installing the flight data recorder (abstract) on board the aircraft.

Regarding claim 5, Bateman (as best understood) disclose the system of claim 1, further including an apparatus comprising a separate nonvolatile memory that stores the same said flight data (col. 9, lines 33+; abstract; 60, col. 8, lines 33-37; col. 9, lines 9-14).

Regarding claim 8, Bateman (as best understood) disclose the system of claim 1 wherein said ground based data retrieving apparatus 110 includes a general-purpose computer interfaced to a wireless communications device.

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Regarding claim 9, Bateman (as best understood) disclose the apparatus of claim 8 wherein said computer can either be stationary or portable (fig. 1)

Regarding claim 10, Bateman (as best understood) disclose the system of claim 1 wherein said wireless means of communications (col. 7, lines 7-11) can operate both above ground and underwater.

Regarding claim 11, Bateman disclose the method of recording flight data in an aircraft comprising:

- collecting flight data from sensors (20, 40, 30; col. 7, lines 45-59; fig. 2) which monitor the condition of the aircraft and its surroundings;

- collecting data from sensors (col. 9, 22-25) which monitoring the operation of the aircraft's power plant (engine, col. 9, lines 22-25);

- acquiring data from devices (30, col. 8, lines 57+; col. 11, lines 55+) which monitor the activity of the crew;

- acquiring aircraft position information from a global position satellite receiver (40, col. 7, lines 45-59; fig. 2);

- processing data acquired 10 (col. 9, lines 33+; col. 8, lines 33-37; abstract; col. 7, lines 52-55; col. 8, lines 38-56; col. 11, lines 19+) from said sensors, devices and global positioning receiver (20, 40, 30; col. 7, lines 45-59; fig. 2);

- storing said data in a plurality of non-volatile memory modules (col. 9, lines 33+; abstract; 60, col. 8, lines 33-37; col. 9, lines 9-14);

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transferring said data to a ground based data retrieving apparatus 110, 120 (fig. 1, col. 7, lines 65 through col. 8, lines 1+; col. 10, lines 40-45) using a wireless means (col. 7, lines 7-11) when the aircraft is on the ground;

converting, displaying and storing said data on the ground-based data retrieving apparatus (fig. 1, col. 7, lines 65 through col. 8, lines 1-9; col. 10, lines 56+).

Regarding claim 12, Bateman disclose the method of claim 11, wherein said step of storing further includes the step of recording relative position data (i.e. as known in the art when GPS signals are interrupted) instead of absolute position data (i.e. as known in the art when GPS signals are uninterrupted), thereby reducing the memory space needed for recording said data.

Regarding claim 13, Bateman disclose the method of claim 11 wherein said step of storing further includes the step of varying, at the option of a user (recall that processor or module 10 has been programmed according to a users option), the amount of flight data recorded per unit time according to flight conditions (col. 10, lines 23-45).

Regarding claim 14, Bateman disclose the method of claim 13 wherein said flight data are recorded more frequently during the more critical stages (col. 10, lines 23-45) of a flight, such as landing and take-off, than during taxiing and cruising (i.e. as understood in the art since there is more change in activities "or Alerts/Alarms" during take off than cruising or taxiing, the data will be collected more during take off than cruising or taxiing).

Regarding claim 16, Bateman (as best understood) disclose the method of claim 11 wherein said step of converting data includes converting the raw sensor data into meaningful forms (separate and descramble data streams, col. 10 lines 56+).



*Claim Rejections - 35 USC § 103*

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman (6092008) in view of Clavelloux et al (5508922)

Regarding claim 4, Bateman (as best understood) disclose the system of claim 1 as a unit installed on an aircraft (col. 4, lines 60+), but did not particularly mention an enclosure. However, Clavelloux et al (figs, 1-3) disclose a flight data recording system comprising an enclosure, which is water resistant, impact resistant, fireproof, and houses all the elements (col. 4, lines 13-29; col. 5, lines 31-35) of a single apparatus installed on board the aircraft (col. 1, lines 11+). Therefore, it would have been obvious to one of ordinary skill in the art of flight data recorders to modify the Bateman invention as taught by Clavelloux et al for the purpose of protecting collected essential data aboard an aircraft.

Regarding claim 6, Bateman (as best understood) disclose the apparatus of claim 5 as a unit installed on an aircraft (col. 4, lines 60+), but did not particularly mention a memory enclosed in its own encapsulation. However, Clavelloux et al (figs, 1-3) disclose a flight data recording system (col. 1, lines 11+) comprising a memory enclosed in its own water resistant, impact resistant and fireproof encapsulation (col. 4, lines 13-29; col. 5, lines 31-35) such that when the other elements of the flight data recorder are damaged, there is still a high probability that the recorded data can be retrieved from said apparatus. Therefore, it would have been

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obvious to one of ordinary skill in the art of flight data recorders to modify the Bateman invention as taught by Clavelloux et al for the purpose of protecting collected essential data aboard an aircraft.

12. Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman (6092008) in view of Wright et al (2002/0018008).

Regarding claim 15, Bateman disclose the method of claim 11 for transferring data, but did not particularly mention a step of detecting errors. However, Wright et al (abstract) teaches of a method of recording flight data in an aircraft wherein a step of transferring data further includes the step of detecting errors during the data transfer and automatically re-trying the data transfer when errors are encountered (Para. 0017; last four lines of Para. 0019, etc). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Bateman device as taught by Wright et al for the purpose of correcting transmission errors.

13. Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman (6092008) in view of Jiang (6278913)

Regarding claim 17, Bateman disclose the method of claim 11, but did not disclose plots of the aircraft flight paths. However, Jiang (col. 15, lines 49+; figs. 12 a&b) teaches of a ground based system for an aircraft, said system displaying data including graphically displaying plots of the aircraft flight paths from different views and sensor data at every point in the flight path. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Bateman device as taught by Jiang for the purpose of properly monitoring aircraft performance.

*Conclusion*

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following: 4729102, 6278396, 6005513, 5111400, 5193046, 5317463, 5438162, and 5477917 all disclose an aircraft system.

*Communication*


15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 703-305-6318. The examiner can normally be reached on Mon-Thurs; 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on 703-308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Ronnie Mancho  
Examiner  
Art Unit 3661

March 25, 2002

  
WILLIAM A. CUCHLINSKI, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600